

# Chemical Evolution of the Universe

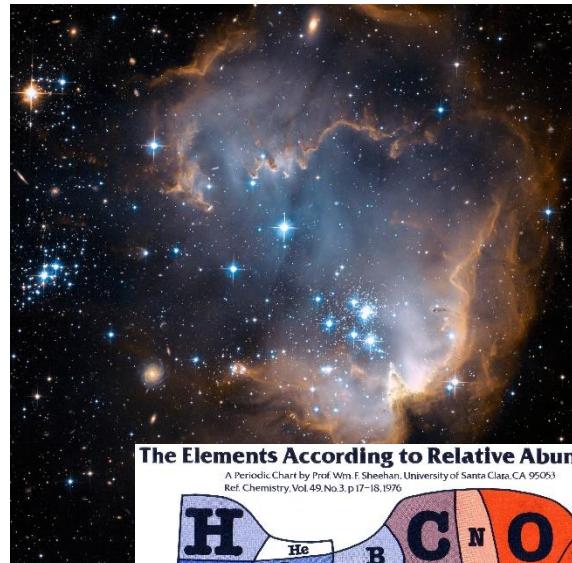
## Part 9



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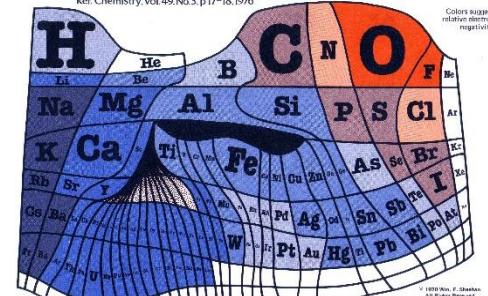
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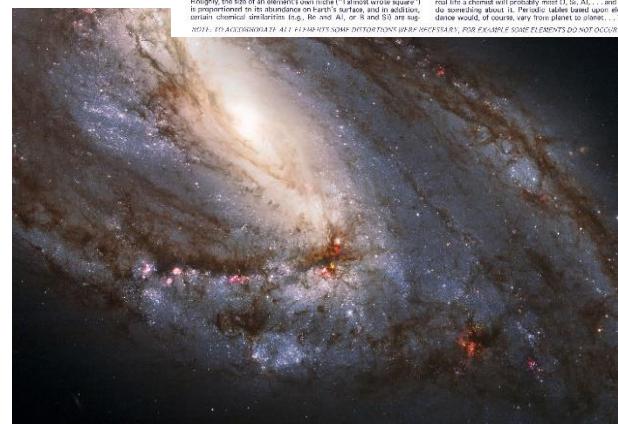
The Elements According to Relative Abundance

A Periodic Chart by Prof. Wm F. Sheehan, University of Santa Clara, CA 95053  
Ref. Chemistry, Vol. 49, No. 3, p 17-18, 1976

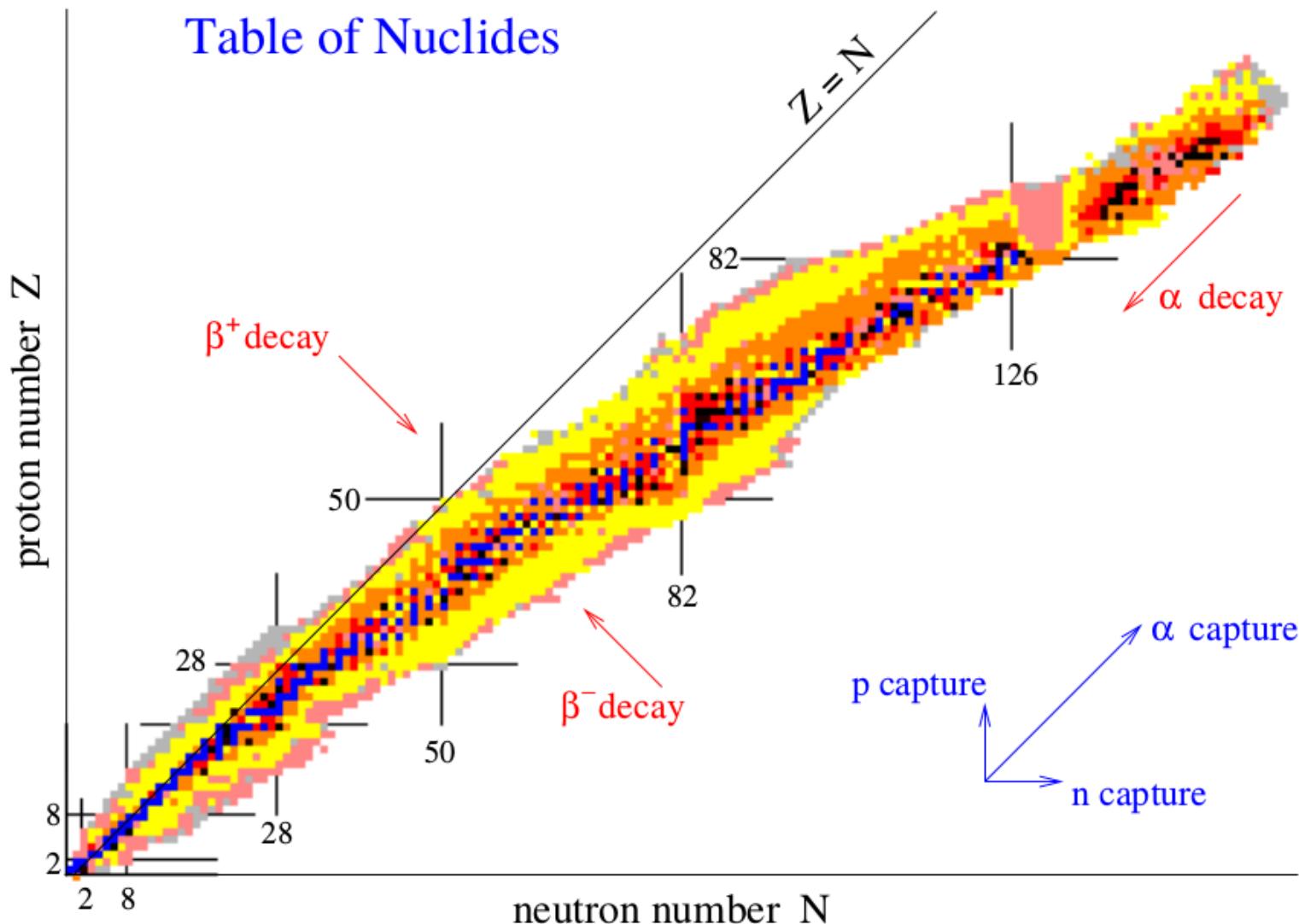
Colors suggest relative electronegativity



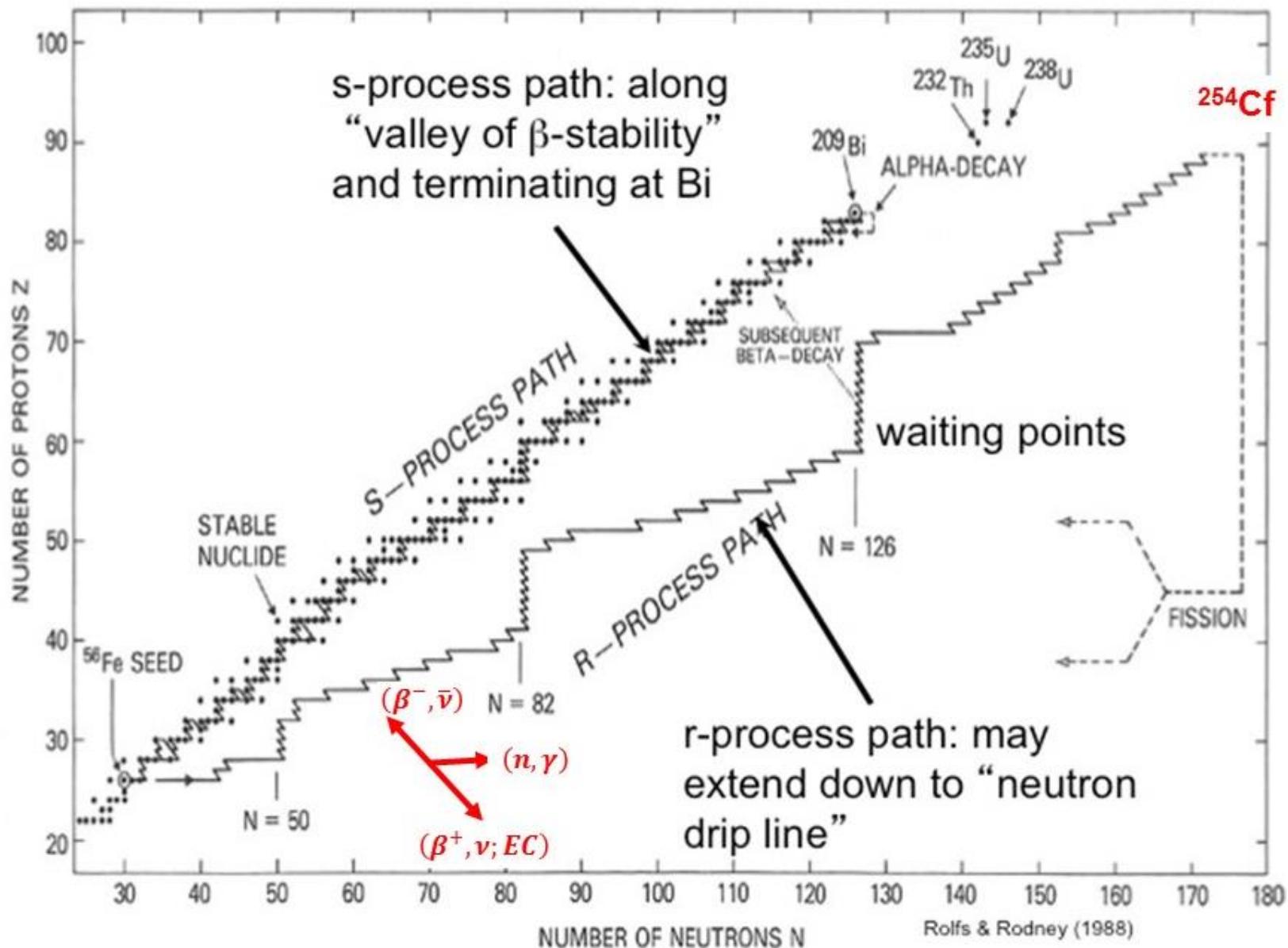
Roughly, the size of an element's own square ("at least one square") is proportional to its abundance on Earth's surface, and in addition, certain chemical similarities (e.g., Be and Al, or Si and SiO<sub>2</sub>) are reflected in the chart. The chart emphasizes that most elements are relatively rare, and the chemist will probably never run across something about it. Periodic Tables based upon elemental abundance would, of course, vary from planet to planet. ... W.F.S.  
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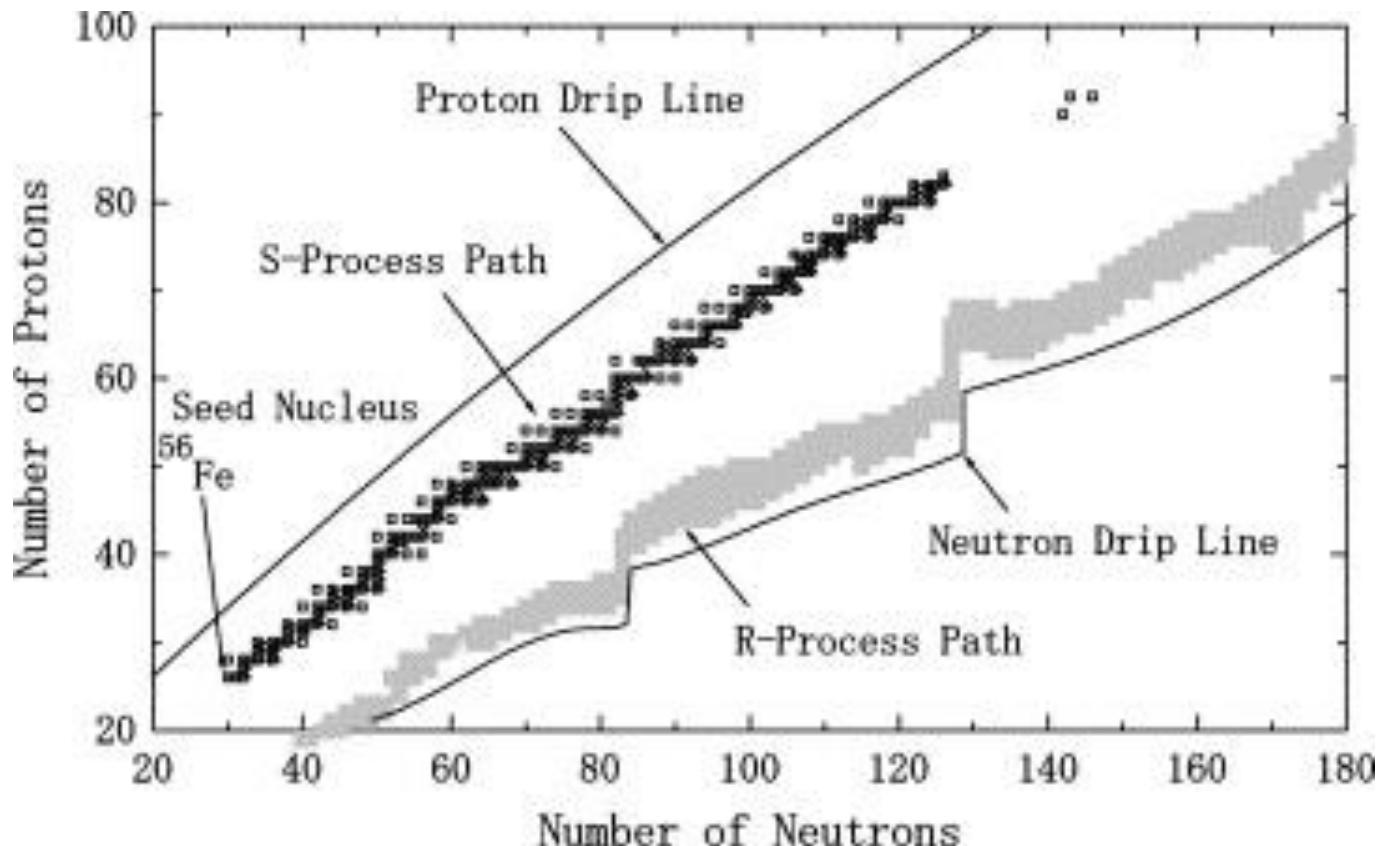
## 4. Neutron capture processes



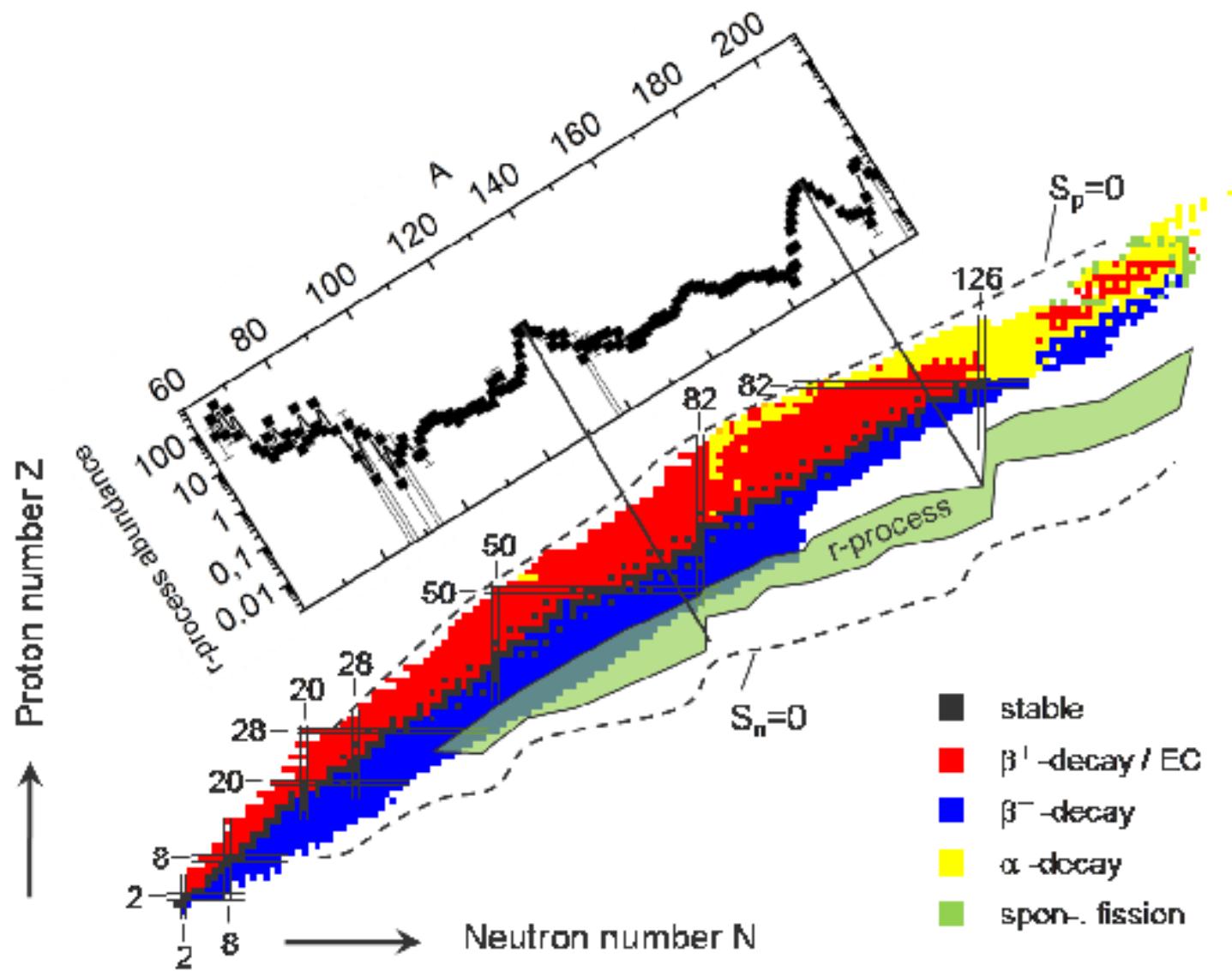
## 4.2 The r-process



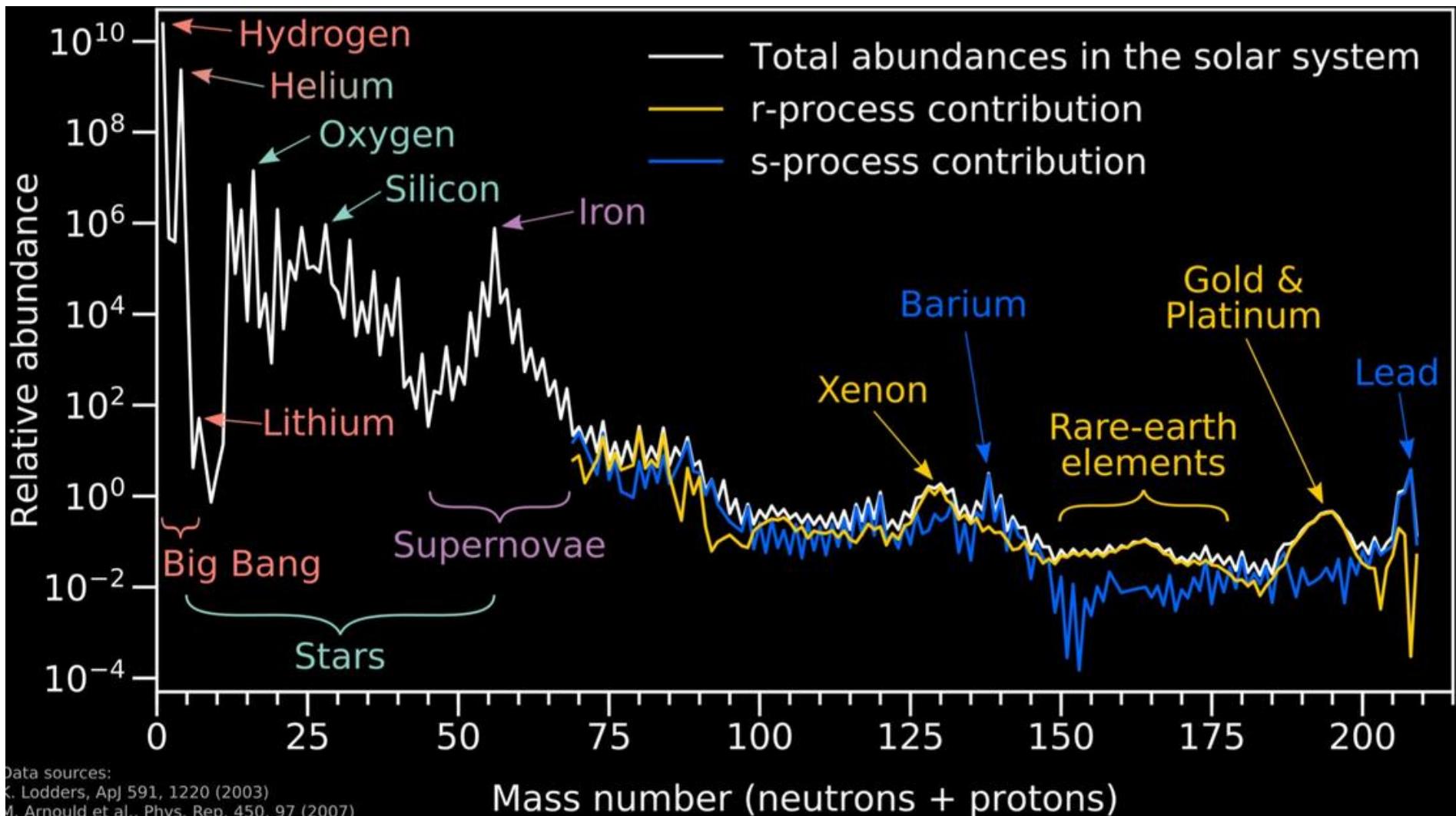
## 4.2 The r-process



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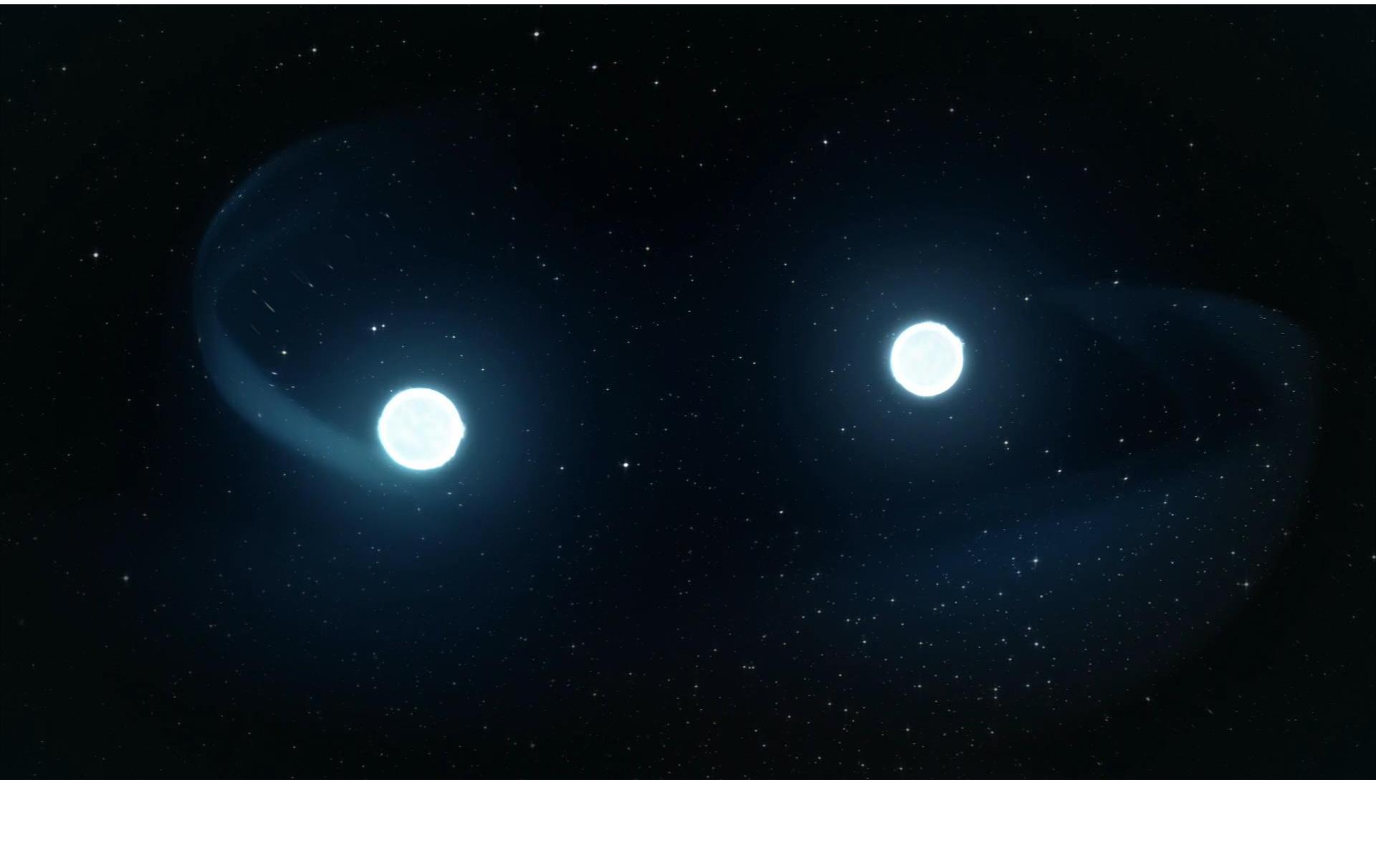


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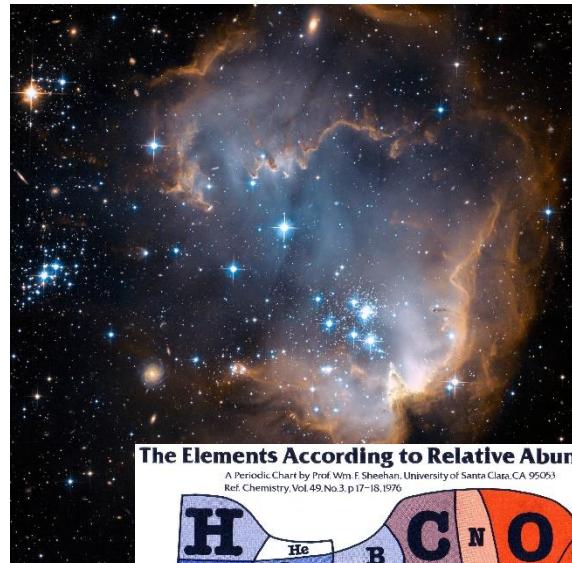
Data sources:  
K. Lodders, ApJ 591, 1220 (2003)  
M. Arnould et al., Phys. Rep. 450, 97 (2007)

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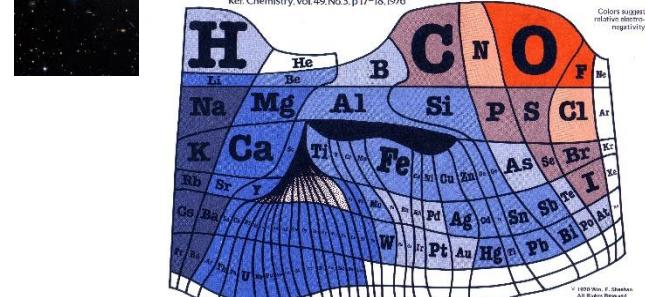


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Ref. Chemistry, Vol. 49, No. 3, p 17-18, 1976



Roughly, the size of an element's own square ("at least twice square") is proportional to its abundance on Earth's surface, and in addition, certain chemical similarities (e.g., Be and Al, or S and Si) are indicated by the position of neighbors. The chart emphasizes that iron and its chemical will probably never be found in nature in anything but something about it. Periodic Tables based upon elemental abundance would, of course, vary from planet to planet. ... W.F.S.  
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